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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,401	08/09/2001	Ronald E. Nichols	287122-00004	4498

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EXAMINER	
DANG, THUAN D	
ART UNIT	PAPER NUMBER
1764	

DATE MAILED: 12/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/925,401	NICHOLS ET AL.	
	Examiner	Art Unit	
	Thuan D. Dang	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 September 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) *22-26* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a)☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *3* .
4)☐ Interview Summary (PTO-413) Paper No(s). _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: .

DETAILED ACTION

Oath/Declaration

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

> The oath or declaration is defective because:
> It does not identify the city and either state or foreign country of residence of each inventor. The residence information may be provided on either on an application data sheet or supplemental oath or declaration.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1 and 16, "said method occurring while maintaining a vacuum" on the third line from the last line is indefinite since it is unclear where a vacuum is maintained.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible

harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-21 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-27 of copending Application No. 09/925,391. Although the conflicting claims are not identical, they are not patentably distinct from each other because the conflicting claim discloses a process of pyrolysis of hydrocarbon, namely used rubber in the presence of clay and low pressure. The difference is that while the conflicting process uses clay and metal dust, the present claimed process does not require metal. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the conflicting process by eliminating the metal since omission of an element with a corresponding omission of function is within the level of ordinary skill. *In re Wilson* 153 USPQ 740 (CCPA 1967); *in re Portz* 145 USPQ 397 (CCPA 1965); *In re*

Larson 144 USPQ 347 (CCPA 1965); *In re Karlson* 136 USPQ 184 (CCPA 1963); *In re Listen* 58 USPQ 481 (CCPA 1943); *In re Porter* 20 USPQ 298 (CCPA 1934).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gi (4,463,203) in view of either Roy (4,740,270) or Solbakken et al (4,250,158) in considered with the prior art admitted by applicants.

Gi discloses a process of pyrolysis of used tire to produce a product comprising solid carbon, oil and fuel gas in the presence of bentonite (the abstract).

Gi is totally silent as to selection a pressure for the pyrolysis (see the entire patent for details). However, either Solbakken or Roy disclose operating a similar process under low pressure (the abstract of the two patents).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Gi process by operating the pyrolysis under low pressure since while Solbakken discloses that a low pressure pyrolysis optimizes oil yield at the expense of fuel gas generation and produces higher quality carbon black under low temperatures which makes the reaction vessel cheaper to build and maintain (col. 6, line 65 thru col. 7, line 6), Roy discloses that under sub-atmospheric pressure, the yield of the highly desired liquid hydrocarbons is significantly increased while the yields of the less desired gaseous hydrocarbons and solid carbonadoes material are lowered (col. 1, line 57 thru col. 2, line 1).

Gi does not disclose that bentonite is a pillared clay or a commercial clay containing product such as cat litter and oil spill absorbent (see the entire patent for details). However, as disclosed by applicants on page 7, lines 14-25). Pillared clays, smectile ore, cat litter, and oil spill absorbent are made of or is bentonite.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Gi process by using these materials as the bentonite in the Gi process since it is expected that using any material is or contains bentonite yields similar results.

While applicants claim an amount of the clay of from 0.01 to 3.0 wt% based on the total weight of said hydrocarbon material, Gi discloses an amount of 3.1 wt% of bentonite. These amounts are so close.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Gi process by operating a process having 3 wt% of bentonite to arrive at the applicants' claimed process since it has been established by the patent law that if range of prior art and claimed range do not overlap, obviousness may still exist if the ranges are close enough that one would not expect a difference in properties. *In re Woodruff* 16 USPQ 2d 1934 (Fed. Cir. 1990); *Titanium Metals Corp. V. Banner* 227 USPQ 773 (Fed. Cir. 1985); In re *Allers*, 105 USPQ 233 (CCPA 1955).

The temperature of the process can be found on column 2, lines 30-50.

Regarding claims 11-13 and 16-18, on column 2, lines 30-51, Gi discloses that the process has three different phases which has different temperature, namely 100-200°C, still 500°C, and 500-600°C.

Gi does not discloses that these phases are operated in different spaces. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Gi process to do that so that the Gi process can be operated continuously.

Gi does not disclose that a fuel input is adjusted to take advantage of the exothermic nature of the reaction (see the entire patent for details). However, as known the pyrolysis is a naturally exothermic reaction (see page 8, line 26 of the specification).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Gi process to adjust energy to heat the process according to the heat required by the nature the reaction. An exothermal reaction liberates heat during the reaction. Therefore, an input of energy is needed less than an endothermic reaction.

The pressure of the process can be found on col. 7, lines 7-13 of Solbakken and figure 3 of Roy.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuan D. Dang whose telephone number is 703-305-2658. The examiner can normally be reached on Mon-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 703-308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-5408 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Thuan D. Dang
Primary Examiner
Art Unit 1764

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December 13, 2002